

ASHLAND/NSP LAKEFRONT SITE
APRIL 15, 2004 PROGRESS REPORT (No. 5)
WDNR BRRTS #02-02-00013
CERCLA Docket No. V-W-04-C-764
USEPA ID# WISFN057952

This is the fifth progress report prepared in accordance with the Administrative Order on Consent (AOC) for the Ashland/NSP Lakefront Site, effective November 14, 2003. This report covers activities completed in March 2004. It is intended to meet the requirements described in Task 8 of the Statement of Work appended to the AOC.

Field Activities Completed

Quarterly groundwater samples were collected from wells monitored for the tar removal system the week of March 15, 2004. This report includes the water level measurements and system monitoring data collected at that time. At the time of this report, the results of the samples had not yet been received from the laboratory. (The EDMAN package of this data will be submitted with the subsequent monthly report following receipt of the validation report of this March 2004 data.) Observations made during the March sampling include the following:

- TW-12, a well located at Kreher Park and proposed for monitoring as part of the RI/FS sampling program, was apparently damaged by a snow plow. The condition of the well could not be assessed because of a large quantity of snow piled near the well. The condition of the well will be reassessed during better weather conditions.
- MW-4B, a well screened in the Copper Falls aquifer located in the alley south of the Xcel Energy service center, yielded sheen and trace product during well purging. This well is the deepest in a well nest consisting of three wells (MW-4 is a water table well screened in the ravine fill; two other wells, -4A and -4B are screened in the Copper Falls). This well has historically yielded low levels of contaminants (86 ppb benzene during the December, 2003 event, compared to 16,000 ppb benzene in MW-4A at the same time). This well nest is one of the oldest at the site. A contaminant trend evaluation will be performed following receipt of the March data.
- Free-product measurements in TW-11 and MW-3(NET) were comparable to those made in December. An obstruction prevented sounding the complete depth of the MW-13B well. Significant product measurements have been made historically at this well, on the order of about 12 feet; approximately 5.4 feet of DNAPL was measured during March. Additionally, free-product in MW-15A, a well installed December 2003, caused the bailer to degrade and fall to the bottom of the well; a product measurement could not be made. All other free-product measurements at other wells were comparable to past events. Tables 1 and 2 attached to this report include water level and free-product measurements for March, respectively.

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The coal tar removal system continued to operate during March 2004. As of March 26, 2004, approximately 338 gallons of free-product were measured in the collection tank. At the time of the latest March system inspection (March 25), the system was operating but the free-product level had not changed since the previous visit. It was noticed that a check valve in the line from the transfer pump at the oil-water separator had become plugged. This check valve was an orphan from an earlier pump associated with the initial design. The pump has since been replaced with more resistant tar components, and does not need the check valve feature. Coleman Engineering replaced the valve with a straight pipe, and the system operated efficiently since that time. The most recent monitoring data for the system is attached to this report as Tables 3 through 5.

Reporting Activities Completed

The first EDMAN electronic data package including all data validation qualifiers For the December 2003 groundwater data was submitted on a diskette to Doug Zamastil, Region 5 Superfund E-Data Coordinator. A CD was submitted to Mr. Zamastil concurrent with the March 15, 2004 monthly report. The same submittal procedure will be followed after receipt of the data validation report from Environmental Data Systems (EDS), URS' data validation subcontractor, for the March 2004 data. Data received prior to that report will be submitted and labeled as 'Draft – Unvalidated Data' as previously reported.

During March URS prepared a draft work plan addendum for smelt sampling as part of the ecological and human health risk assessments proposed for the RI/FS program. Smelt was identified as a target species in the Revision 01 work plan submitted in February 2004. Xcel Energy recommended taking advantage of the seasonal smelt spawning runs in early spring following melting of the winter ice (ice-out). The work detailed collection and analysis of smelt samples from the affected sediment area along with reference areas. Xcel Energy authorized URS to prepare this work plan addendum recognizing that the Agency review of the Revision 01 work plan may not yet be completed prior to the seasonal smelt migration.

Field Activities Planned

Coleman Engineering will continue to monitor the tar removal system on a weekly basis during April.

Following approval of the smelt sampling work plan addendum, URS will implement the sampling program. If the approval is issued, the sampling target period will be during the last two weeks of April.

Reporting Activities Planned

The smelt sampling field program will be discussed in the subsequent monthly report.

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Findings and conclusions derived from the data will be included as part of the RI/FS report documents.

Xcel Energy is prepared to respond to comments to the Revision 01 RI/FS Work Plan draft Planning Documents upon receipt.

Attachments:

Table 1 – Summary of Groundwater Elevations
Table 2 – Summary of free Phase Hydrocarbon Thickness
Table 3 – Remediation System Water Quality Monitoring Results
Table 4 – Remediation System Air Monitoring Results
Table 5 – Summary of Coal Tar and Groundwater Volume Removed

Appendix – Laboratory Reporting Forms

Table 1
Summary of Groundwater Elevations
Northern States Power, Ashland, Wisconsin

Well Location	Reference Elevation	Sep. 10, 2001			Dec. 3, 2001			Mar. 18, 2002			June 28, 2002			Sept. 16, 2002			Dec. 16, 2002			Groundwater Depth to Water Elevation			Groundwater Depth to Water Elevation			Groundwater Depth to Water Elevation						
		Depth to Groundwater	Water Elevation	Depth to Groundwater	Water Elevation	Depth to Groundwater	Water Elevation	Depth to Groundwater	Water Elevation	Depth to Groundwater	Water Elevation	Depth to Groundwater	Water Elevation																			
MW-1	634.18	15.08	619.10	14.26	619.92	--	--	14.79	619.39	17.43	616.75	15.28	618.90	15.51	618.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
MW-2	634.85	14.92	619.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
MW-2A	634.24	19.50	614.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
MW-2B	634.68	10.52	624.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
MW-43	637.43	--	--	--	--	--	--	14.70	622.73	15.00	622.43	14.75	622.68	16.21	621.22	16.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-2AR	636.28	--	--	--	--	--	--	20.13	616.15	20.25	616.03	14.87	621.41	20.24	616.04	20.28	616.00	20.28	616.00	20.28	616.00	20.28	616.00	20.28	616.00	20.28	616.00	20.28	616.00	20.28		
MW-2BR	636.24	--	--	--	--	--	--	11.97	624.27	12.03	624.21	12.14	624.10	10.86	625.38	10.61	625.63	10.61	625.63	10.61	625.63	10.61	625.63	10.61	625.63	10.61	625.63	10.61	625.63	10.61		
MW-3	637.83	3.14	634.69	0.00	637.83	--	--	2.72	635.11	2.16	635.67	3.69	634.14	5.09	632.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	640.92	6.40	631.63	4.98	636.05	5.60	635.43	5.02	636.01	5.86	635.17	6.60	634.43	5.78	634.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4A	641.22	14.28	626.94	14.20	627.02	13.50	627.72	13.10	628.12	14.01	627.21	14.02	627.20	14.36	626.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4B	640.98	16.61	624.37	15.32	625.66	16.27	624.71	16.73	624.25	17.16	623.82	15.98	625.00	15.93	625.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-5	633.82	18.15	615.67	17.95	615.87	19.44	614.38	17.80	616.02	18.58	615.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
MW-5A	633.72	19.38	614.34	19.26	614.46	19.60	614.12	19.05	614.67	19.17	614.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
MW-5B	633.89	19.14	614.75	19.25	614.64	19.37	614.52	19.03	614.86	19.13	614.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
MW-5C	634.33	9.90	624.43	9.47	624.86	9.33	625.00	9.51	624.82	9.94	624.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-6	644.88	17.01	627.87	15.95	628.93	--	--	--	14.25	630.63	16.58	628.30	17.04	627.84	15.54	629.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6A	644.79	20.31	624.48	19.76	625.03	--	--	20.02	624.77	20.63	624.16	19.51	625.28	19.52	625.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	612.60	3.92	608.68	4.00	608.60	4.17	608.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-7A	613.25	flowing	--	flowing	--	--	--	--	flowing	--	flowing	--	flowing	--	flowing	--	flowing	--	flowing	--												
MW-8	634.42	4.79	629.63	4.46	629.96	8.09	626.33	4.52	629.90	3.79	630.63	5.81	628.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-8A	634.62	15.68	618.94	15.24	619.38	15.27	619.35	15.47	619.15	15.72	618.90	15.02	619.60	14.94	619.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	637.98	5.92	632.06	--	--	--	--	--	4.58	633.40	4.50	633.48	6.79	631.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9A	637.86	13.66	624.20	13.25	624.61	13.21	624.65	13.92	623.94	13.58	624.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9B	638.02	13.80	624.22	13.28	624.74	13.30	624.72	13.86	624.16	14.42	623.60	13.09	624.93	12.96	625.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9C	637.95	13.67	624.28	13.28	624.67	13.22	624.73	14.06	623.89	14.40	623.55	13.07	624.88	12.97	624.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	638.20	4.64	633.56	4.33	633.87	4.59	633.61	3.40	634.80	4.17	634.03	5.06	633.14	8.93	629.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10A	638.07	15.55	622.52	14.19	623.88	14.21	623.86	14.61	623.46	14.98	623.09	13.91	624.16	14.05	624.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10B	638.40	22.42	615.98	22.33	616.07	21.25	617.15	21.75	616.65	21.45	616.95	21.71	616.69	21.45	624.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	636.13	8.62	627.51	6.23	629.90	--	--	6.20	629.93	7.03	629.10	9.16	626.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Notes:
 Reference elevation surveyed by Dames & Moore/URS

Table 1
Summary of Groundwater Elevations
Northern States Power, Ashland, Wisconsin

Well Location	Reference Elevation	Sep. 10, 2001	Dec. 3, 2001	Mar. 18, 2002	June 28, 2002	Sept. 16, 2002	Dec. 16, 2002	Mar. 24, 2003
		Depth to Groundwater Water Elevation						
TW-13	635.72	9.54	626.29	4.58	631.25	4.71	631.12	3.86
MW-13A	635.94	20.79	615.15	21.58	614.36	21.00	614.94	20.70
MW-13B	635.90	20.83	615.07	21.21	614.69	20.75	615.15	20.62
MW-13C	636.11	11.73	624.38	11.32	624.79	11.24	624.87	11.95
MW-13D	637.09	11.81	625.28	11.39	625.70	11.39	625.70	12.03
MW-14	639.15	4.33	634.82	4.92	634.23	--	--	--
MW-15	641.21	4.52	636.69	4.33	636.88	3.60	637.61	3.52
MW-16	642.20	1.74	640.46	1.05	641.15	--	641.80	1.66
MW-17	633.88	2.64	631.24	--	--	3.29	630.59	2.56
MW-17A	633.68	19.94	613.74	--	--	20.18	613.50	19.90
MW-18A	635.57	--	--	--	20.50	615.07	20.22	615.35
MW-18B	635.52	--	--	--	13.46	622.06	13.75	621.77
MW-19A	636.76	--	--	--	21.27	615.49	20.41	616.35
MW-19B	636.65	--	--	--	11.74	624.91	11.58	625.07
MW-20A	642.65	--	--	--	24.30	618.35	24.25	618.40
MW-21A	637.82	--	--	--	21.75	616.07	20.87	616.95
MW-22A	638.34	--	--	--	--	--	19.11	619.23
MW-22B	638.50	--	--	--	--	14.56	623.94	14.79
MW-1(NET)	608.40	7.30	601.10	7.47	600.93	8.00	600.40	7.17
MW-2(NET)	608.23	7.11	601.12	7.24	600.99	7.79	600.44	6.95
MW-2A(NET)	607.99	--	--	--	--	--	--	--
MW-2B(NET)	608.50	--	--	--	--	--	--	--
MW-3(NET)	612.10	7.17	604.93	11.25	600.85	11.38	600.72	10.75
TW-11	606.80	5.75	601.05	5.75	601.05	5.74	601.06	3.58
TW-12	608.45	--	--	--	--	--	7.38	601.07

Notes: Reference elevation surveyed by Dames & Moore/URS

Notes:

Table 1
Summary of Groundwater Elevations
Northern States Power, Ashland, Wisconsin

Well Location	Reference Elevation	June 23, 2003		September 29, 2003		December 15, 2003		March 16, 2004	
		Depth to Water	Groundwater Elevations	Depth to Water	Groundwater Elevations	Depth to Water	Groundwater Elevations	Depth to Water	Groundwater Elevations
MW-1	634.18	14.51	619.67	14.80	619.38	NM	—	NM	—
MW-2R	637.43	15.59	621.84	15.58	621.85	15.52	621.91	15.32	622.11
MW-2AR	636.28	21.09	615.19	20.95	615.33	20.21	616.07	20.58	615.70
MW-2BR	636.24	11.67	624.57	11.10	625.14	10.41	625.83	10.68	625.56
MW-2C ¹	—	—	—	—	—	2.45	—	9.81	—
MW-3	637.83	2.60	635.23	2.62	635.21	NM	—	5.36	632.47
MW-4	640.92	5.07	635.85	6.34	634.58	5.74	635.18	5.31	635.61
MW-4A	641.22	13.74	627.48	14.69	626.53	14.14	627.08	14.28	626.94
MW-4B	640.98	16.72	624.26	16.35	624.63	16.03	624.95	16.32	624.66
MW-5	633.82	19.20	614.62	18.73	615.09	NM	—	18.68	615.14
MW-5A	633.72	19.18	614.54	19.17	614.55	NM	—	19.29	614.43
MW-5B	633.89	19.15	614.74	19.09	614.80	NM	—	19.08	614.81
MW-5C	634.33	10.07	624.26	9.42	624.91	NM	—	9.17	625.16
MW-6	644.88	15.28	629.60	16.41	628.47	NM	—	13.41	631.47
MW-6A	644.79	20.10	624.69	20.02	624.77	NM	—	19.68	625.11
MW-7	612.60	—	—	—	—	—	—	—	—
MW-7A	613.25	flowing	—	flowing	—	flowing	—	flowing	—
MW-8	634.42	4.29	630.13	4.30	630.12	5.28	629.14	NM	—
MW-8A	634.62	15.67	618.95	15.19	619.43	NM	—	NM	—
MW-9	637.98	4.54	633.44	5.60	632.38	NM	—	NM	—
MW-9A	637.86	14.21	623.65	13.40	624.46	12.98	624.88	13.26	624.60
MW-9B	638.02	13.23	624.79	13.37	624.65	13.20	624.82	13.13	624.89
MW-9C	637.95	14.28	623.67	13.41	624.54	13.05	624.90	13.30	624.65
MW-10	638.20	3.98	634.22	6.29	631.91	5.84	632.36	6.62	631.58
MW-10A	638.07	14.67	623.40	14.31	623.76	14.06	624.01	14.25	623.82
MW-10B	638.40	22.52	615.88	22.85	615.55	22.27	—	22.15	616.25
MW-11	636.13	6.62	629.51	6.60	629.53	NM	—	NM	—

Notes:

¹ MW-2C not surveyed at the time of this report

Reference elevation surveyed by Dames & Moore/JRS

Table 1
Summary of Groundwater Elevations
Northern States Power, Ashland, Wisconsin

Well Location	Reference Elevation	June 23, 2003		September 29, 2003		December 15, 2003		March 16, 2004	
		Depth to Groundwater	Water Elevation						
TW-13	635.72	4.74	630.98	5.26	630.46	5.10	630.62	NM	—
MW-13A	635.94	21.55	614.39	21.27	614.67	20.60	615.34	20.97	614.97
MW-13B	635.90	21.38	614.52	—	—	20.12	615.78	20.46	615.44
MW-13C	636.11	12.21	623.90	11.47	624.64	11.07	625.04	11.31	624.80
MW-13D	637.09	12.25	624.84	11.53	625.56	11.11	625.98	11.45	625.64
MW-14	639.15	3.78	635.37	4.33	634.82	NM	—	NM	—
MW-15	641.21	4.22	636.99	5.30	635.91	4.77	636.44	4.92	636.29
MW-15A	641.44	—	—	—	NM	—	15.13	626.31	—
MW-15B	641.47	—	—	—	—	16.48	624.99	16.79	624.68
MW-16	642.20	0.73	641.47	1.82	640.38	NM	—	NM	—
MW-17	633.88	2.26	631.62	2.52	631.36	2.65	631.23	2.17	631.71
MW-17A	633.68	19.82	613.86	19.61	614.07	19.48	614.20	18.27	615.41
MW-18A	635.57	20.35	615.22	20.26	615.31	20.12	615.45	20.42	615.15
MW-18B	635.52	13.74	621.78	13.37	622.15	14.66	620.86	12.17	623.35
MW-19A	636.76	21.05	615.71	20.96	615.80	NM	—	20.83	615.93
MW-19B	636.65	12.15	624.50	11.58	625.07	NM	—	11.12	625.53
MW-20A	642.65	24.85	617.80	24.85	617.80	24.82	617.83	24.89	617.76
MW-21A	637.82	21.84	615.98	21.92	615.90	21.53	616.29	21.38	616.44
MW-21B	636.83	—	—	—	—	20.78	616.05	20.94	615.89
MW-22A	638.34	19.47	618.87	19.77	618.57	19.40	618.94	19.29	619.05
MW-22B	638.50	14.58	623.92	14.15	624.35	13.88	624.62	13.97	624.53
MW-1(NET)	608.40	7.41	600.99	7.73	600.67	7.80	600.60	8.12	600.28
MW-2(NET)	608.23	7.16	601.07	7.48	600.75	7.56	600.67	7.82	600.41
MW-2A(NET)	607.99	flowing	—	flowing	—	flowing	—	flowing	—
MW-2B(NET)	608.50	flowing	—	flowing	—	flowing	—	flowing	—
MW-3(NET)	612.10	11.76	600.34	11.68	600.42	11.68	600.42	12.21	600.89
TW-11	606.80	6.09	600.71	5.43	601.37	5.21	601.59	5.77	601.03
TW-12	608.45	7.66	600.79	7.91	600.54	7.99	600.46	NM	—

Notes:
 Reference elevation surveyed by Dames & MooreLURS

Table 2
Summary of Free Phase Hydrocarbon Thickness
Northern States Power, Ashland, Wisconsin

Well Location	Depth to Bottom	October 6, 1998			November 23, 1998			June 2, 1999		
		Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape
EW-1	53.51	41.45	12.06	12.25	40.09	13.42	13.5	35.25	18.26	18.2
MW-7	17.88	(1)	(1)	10.14	(1)	(1)	10.01	(1)	(1)	9.91
MW-9	14.62	13.78	0.84	2.73	14.2	0.42	3.6	14.03	0.59	—
TW-13	14.82	(2)	(2)	(2)	(2)	(2)	(2)	18.10	0.31	2.2
MW-13A	45.33	43.22	2.11	4.73	43.36	1.97	3	43.37	1.96	—
MW-13B	69.82	43.56	26.26	26.1	43.56	26.26	27.6	52.28	17.54	—
MW-15	15.59	14.78	0.81	2.94	13.93	1.66	2.09	13.26	2.33	2.6
Well Location	Depth to Bottom	August 23, 1999			November 29, 1999			September 27, 2000		
		Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape
EW-1	53.51	34.31	19.2	—	(2)	(2)	16.2	(2)	(2)	(2)
MW-7	17.88	(1)	(1)	10.44	(2)	(2)	0	(2)	(2)	(2)
MW-9	14.62	13.02	1.6	—	(2)	(2)	<1 inch	(2)	(2)	(2)
TW-13	14.82	(2)	< 6 inches	< 6 inches	(2)	(2)	<1 inch	14.32	0.5	0.5
MW-13A	45.33	(1)	(1)	8.5	(2)	(2)	2.1	44.33	1.0	1.0
MW-13B	69.82	(1)	(1)	26	(2)	(2)	12.1	57.49	12.33	12.33
MW-15	15.59	(1)	(1)	10.6	(2)	(2)	0.67	(2)	(2)	(2)
Well Location	Depth to Bottom	December 4, 2000			March 27, 2001			June 11, 2001		
		Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape
EW-1	53.51	Not Measured	—	—	Not Measured	—	—	47.51	6.00	6.00
EW-2	50.00	Not Measured	—	—	Not Measured	—	—	40.5	9.50	9.50
EW-3	70.00	Not Measured	—	—	Not Measured	—	—	68.58	1.42	1.42
MW-2A	44.41	Not Measured	—	—	41.66	2.75	2.75	40.37	4.04	4.04
MW-7	17.88	Frozen	—	—	Frozen	—	—	Damaged	—	—
MW-9	14.62	14.5	0.1	0.1	(2)	(2)	(2)	(2)	(2)	(2)
MW-10B	34.91	—	—	—	34.86	0.25	0.25	34.33	0.58	0.58
TW-13	14.82	14.57	0.25	0.25	14.74	0.08	0.08	(2)	(2)	(2)
MW-13A	45.33	44.25	1.08	1.08	44.25	1.08	1.08	44.83	0.50	0.50
MW-13B	69.82	57.24	12.58	12.58	55.36	13.96	13.96	56.85	11.17	11.17
MW-15	15.59	15.17	0.42	0.25	12.84	2.75	2.75	15.34	0.25	0.25

(1) Free-phase hydrocarbons not detected by interface probe; free-phase hydrocarbons observed on tape.

(2) Product not encountered.

Hydrocarbon thickness in well is difference between depth to bottom and depth to hydrocarbon/water interface.

Hydrocarbon thickness on tape measure after probe removed from the well.

Table 2
Summary of Free Phase Hydrocarbon Thickness
Northern States Power, Ashland, Wisconsin

Well Location	Depth to Bottom	September 10, 2001			December 3, 2001			March 18, 2002		
		Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape
EW-1	53.51	Not Measured	-	-	Not Measured	-	-	Not Measured	-	-
EW-2	50.00	Not Measured	-	-	Not Measured	-	-	Not Measured	-	-
EW-3	70.00	Not Measured	-	-	Not Measured	-	-	Not Measured	-	-
MW-2A*	44.41	41.33	3.08	3.08	Not Measured	-	-	43.45**	1.63	1.63
MW-7	17.88	Damaged	-	-	Damaged	-	-	Damaged	-	-
MW-9	14.62	Not Measured	-	-	Not Measured	-	-	Not Measured	-	-
MW-10B	34.91	34.41	0.5	0.5	34.58	0.33	0.33	34.58	0.33	0.33
TW-13	14.82	(2)	(2)	(2)	14.74	0.08	0.08	14.74	0.08	0.08
MW-13A	45.33	43.83	0.58	0.58	43.91	0.5	0.5	44.75	0.58	0.58
MW-13B	69.82	58.99	10.83	10.83	59.65	10.17	10.17	58.32	11.50	11.50
MW-15	15.59	15.26	0.33	0.33	15.34	0.25	0.25	15.51	0.08	0.08
MW-18A*	44.86	-	-	-	-	-	-	(2)	(2)	(2)
MW-19A*	45.20	-	-	-	-	-	-	(2)	(2)	(2)
MW-21A*	46.26	-	-	-	-	-	-	46.25*	0.01*	0.01*
Well Location	Depth to Bottom	June 28, 2002			September 16, 2002			December 16, 2002		
		Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape
EW-1	53.51	No Measured	-	-	Not Measured	-	-	Not Measured	-	-
EW-2	50.00	No Measured	-	-	Not Measured	-	-	Not Measured	-	-
EW-3	70.00	No Measured	-	-	Not Measured	-	-	Not Measured	-	-
EW-4	29.50	29.25	0.25	0.25	(2)	(2)	(2)	(2)	(2)	(2)
MW-2R**	29.40	28.31	1.17	1.17	(2)	(2)	(2)	(2)	(2)	(2)
MW-2AR**	45.08	44.31	0.77	0.77	41.08	4.00	4.00	39.88	5.20	5.20
MW-7	17.88	Abandoned	-	-	Abandoned	-	-	Abandoned	-	-
MW-9	14.62	No Measured	-	-	(2)	(2)	(2)	Not Measured	-	-
MW-10B	34.91	34.08	0.83	0.73	33.74	1.17	1.17	33.40	1.51	1.51
TW-13	14.82	Trace	-	-	Trace	-	-	Trace	-	-
MW-13A	45.33	45.25	0.08	0.08	44.33	1.00	1.00	44.33	1.00	1.00
MW-13B	69.82	67.99	1.83	1.83	59.40	10.42	10.42	58.32	11.50	11.50
MW-15	15.59	15.46	0.13	0.13	15.55	0.04	0.04	15.46	0.13	0.13
MW-18A*	44.86	(2)	(2)	(2)	1	(2)	(2)	(2)	(2)	(2)
MW-19A*	45.20	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
MW-21A*	46.26	Trace	-	-	Trace	-	-	(2)	(2)	(2)
MW-22A*	27.55	(2)	(2)	(2)	(2)	(2)	(2)	27.42	0.13	0.13

(1) Free-phase hydrocarbons not detected by interface probe; free-phase hydrocarbons observed on tape.

(2) Product not encountered.

Hydrocarbon thickness in well is difference between depth to bottom and depth to hydrocarbon/water interface.

* New wells installed in February and June of 2002.

** MW-2A was replaced by MW-2AR in February 2002.

Table 2
Summary of Free Phase Hydrocarbon Thickness
Northern States Power, Ashland, Wisconsin

Well Location	March 24, 2003			June 23, 2003			September 29, 2003			December 15, 2003			March 16, 2004			
	Depth to Bottom Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	
EW-1	53.51	Not Measured	—	Not Measured	—	—										
EW-2	50.00	Not Measured	—	Not Measured	—	—										
EW-3	70.00	Not Measured	—	Not Measured	—	—										
EW-4	29.50	Not Measured	—	Not Measured	—	—										
MW-2R	29.40	27.32	2.08	28.02	1.38	—	27.53	1.87	—	27.90	1.50	—	28.00	1.40	—	
MW-2AR	45.08	40.91	4.17	38.08	7.00	7.00	41.96	3.12	3.12	40.63	4.45	4.45	43.43	1.65	—	
MW-3 (NE)	17.60	Not Measured	—	Not Measured	—	—	Not Measured	—	—	—	—	—	Trace ⁴	17.59	0.01	
MW-7	17.88	Abandoned	—	Abandoned	—	—										
MW-9	14.62	Not Measured	—	Not Measured	—	—										
MW-10B	34.91	Not Measured	—	33.24	1.67	—	33.83	1.08	1.08	32.31	2.60	2.60	33.01	1.90	—	
TW-11	14.00	Not Measured	—	13.50	0.50	0.50	13.17	0.83	0.83	12.92	1.08	1.08	13.20	0.80	—	
TW-13	14.82	Trace	—	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	Not Measured	—	—	
MW-13A	45.33	44.06	1.27	44.33	Trace	Trace	45.31	0.02	0.02	45.08	0.25	0.25	45.08	0.25	0.25	
MW-13B	69.82	58.00	11.82	(3)	(3)	(3)	(3)	(3)	(3)	58.57	11.25	11.25	64.40	5.42	5.42	
MW-15	15.59	15.49	0.10	15.14	0.45	0.45	15.43	0.16	0.16	15.57	0.02	0.02	15.58	0.01	0.01	
MW-15A	—	—	—	—	—	—	—	—	—	—	3.75	3.75	Not Measured	—	—	
MW-18A	44.86	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	
MW-19A	45.20	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	
MW-21A	46.26	(2)	(2)	(2)	(2)	(2)	Trace	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	
MW-22A	27.55	27.26	0.29	0.29	(2)	(2)	(2)	(2)	(2)	(2)	27.51	0.04	0.04	27.54	0.01	0.01

(1) Free-phase hydrocarbons not detected by interface probe; free-phase hydrocarbons observed on tape.

(2) Product not encountered.

(3) Measuring device did not reach the well bottom. Suspected obstruction near well screen.

(4) Trace floating LNAPL encountered in well.

Hydrocarbon thickness in well is difference between depth to bottom and depth to hydrocarbon/water interface.

Hydrocarbon thickness on tape measure after probe removed from the well.

Table 3
Remediation System Water Quality Monitoring Results
Northern States Power, Ashland, Wisconsin

March 2004

Analyte	Units	Influent	Precarbon	Effluent	⁽¹⁾ POTW	Method	⁽³⁾ Frequency
VOCs							
1,1,1,2-TETRACHLOROETHANE	ug/L	<66	<6.6	<0.13	—	EPA 8260	Monthly
1,1,1-TRICHLOROETHANE	ug/L	<82	<8.2	<0.16	—	EPA 8260	Monthly
1,1,2,2-TETRACHLOROETHANE	ug/L	<88	<8.8	<0.18	—	EPA 8260	Monthly
1,1,2-TRICHLOROETHANE	ug/L	<90	<9	<0.18	—	EPA 8260	Monthly
1,1-DICHLOROETHANE	ug/L	<53	<5.3	<0.11	—	EPA 8260	Monthly
1,1-DICHLOROETHENE	ug/L	<86	<8.6	<0.17	—	EPA 8260	Monthly
1,1-DICHLOROPROPENE	ug/L	<70	<7	<0.14	—	EPA 8260	Monthly
1,2,3-TRICHLOROBENZENE	ug/L	<100	<10	<0.2	—	EPA 8261	Monthly
1,2,3-TRICHLOROPROPANE	ug/L	<77	<7.7	<0.15	—	EPA 8260	Monthly
1,2,4-TRICHLOROBENZENE	ug/L	<81	<8.1	<0.16	—	EPA 8260	Monthly
1,2,4-TRIMETHYLBENZENE	ug/L	270	6.5	<0.13	—	EPA 8260	Monthly
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	<79	<7.9	<0.16	—	EPA 8260	Monthly
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ug/L	<72	<7.2	<0.14	—	EPA 8260	Monthly
1,2-DICHLOROBENZENE	ug/L	<69	<6.9	<0.14	—	EPA 8260	Monthly
1,2-DICHLOROETHANE	ug/L	<70	<7	<0.14	—	EPA 8260	Monthly
1,2-DICHLOROPROPANE	ug/L	<70	<7	<0.14	—	EPA 8260	Monthly
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	ug/L	<69	<6.9	<0.14	—	EPA 8260	Monthly
1,3-DICHLOROBENZENE	ug/L	<67	<6.7	<0.13	—	EPA 8260	Monthly
1,3-DICHLOROPROPANE	ug/L	<79	<7.9	<0.16	—	EPA 8260	Monthly
1,4-DICHLOROBENZENE	ug/L	<81	<8.1	<0.16	—	EPA 8260	Monthly
2,2-DICHLOROPROPANE	ug/L	<58	<5.8	<0.12	—	EPA 8260	Monthly
2-CHLOROTOLUENE	ug/L	<61	<6.1	<0.12	—	EPA 8260	Monthly
4-CHLOROTOLUENE	ug/L	<71	<7.1	<0.14	—	EPA 8260	Monthly
BENZENE	ug/L	4500	39	<0.11	—	EPA 8260	Monthly
BROMOBENZENE	ug/L	<69	<6.9	<0.14	—	EPA 8260	Monthly
BROMOCHLOROMETHANE	ug/L	<80	<8	<0.16	—	EPA 8260	Monthly
BROMODICHLOROMETHANE	ug/L	<57	.5,7	<0.11	—	EPA 8260	Monthly
BROMOFORM	ug/L	<91	<9.1	<0.18	—	EPA 8260	Monthly
BROMOMETHANE	ug/L	<130	<13	<0.26	—	EPA 8260	Monthly
CARBON TETRACHLORIDE	ug/L	<64	<6.4	<0.13	—	EPA 8260	Monthly
CHLOROBENZENE	ug/L	<84	<8.4	<0.17	—	EPA 8260	Monthly
CHLOROETHANE	ug/L	<300	<30	<0.6	—	EPA 8260	Monthly
CHLOROFORM	ug/L	<80	<8	<0.16	—	EPA 8260	Monthly
CHLOROMETHANE	ug/L	<93	<9.3	<0.19	—	EPA 8260	Monthly
CIS-1,2-DICHLOROETHYLENE	ug/L	<110	<11	<0.22	—	EPA 8260	Monthly
CIS-1,3-DICHLOROPROPENE	ug/L	<73	<7.3	<0.15	—	EPA 8260	Monthly
CYMBENE	ug/L	<68	<6.8	<0.14	—	EPA 8260	Monthly
DIBROMOCHLOROMETHANE	ug/L	<55	<5.5	<0.11	—	EPA 8260	Monthly
DIBROMOMETHANE	ug/L	<85	<8.5	<0.17	—	EPA 8260	Monthly
DICHLORODIFLUOROMETHANE	ug/L	<130	<13	<0.26	—	EPA 8260	Monthly
ETHYLBENZENE	ug/L	150	<5.4	<0.11	—	EPA 8260	Monthly
HEXACHLOROBUTADIENE	ug/L	<140	<14	<0.28	—	EPA 8260	Monthly
ISOPROPYL ETHER	ug/L	<68	<6.8	<0.14	—	EPA 8260	Monthly
ISOPROPYLBENZENE (CUMENE)	ug/L	<57	<5.7	<0.11	—	EPA 8260	Monthly
M,P-XYLENE (SUM OF ISOMERS)	ug/L	830	<12	<0.24	—	EPA 8260	Monthly
METHYLENE CHLORIDE	ug/L	<58	<5.8	<0.12	—	EPA 8260	Monthly
NAPHTHALENE	ug/L	9700	570	<0.18	—	EPA 8260	Monthly
N-BUTYLBENZENE	ug/L	<65	<6.5	<0.13	—	EPA 8260	Monthly
N-PROPYLBENZENE	ug/L	<65	<6.5	<0.13	—	EPA 8260	Monthly
O-XYLENE (1,2-DIMETHYLBENZENE)	ug/L	510	7.4	<0.11	—	EPA 8260	Monthly
SEC-BUTYLBENZENE	ug/L	<67	<6.7	<0.13	—	EPA 8260	Monthly
STYRENE	ug/L	1600	22	<0.12	—	EPA 8260	Monthly
T-BUTYLBENZENE	ug/L	<61	<6.1	<0.12	—	EPA 8260	Monthly
TERT-BUTYL METHYL ETHER	ug/L	<76	<7.6	<0.15	—	EPA 8260	Monthly
TETRACHLOROETHYLENE (PCE)	ug/L	<86	<8.6	<0.17	—	EPA 8260	Monthly
TOLUENE	ug/L	3100	28	<0.14	—	EPA 8260	Monthly
TRANS-1,2-DICHLOROETHENE	ug/L	<82	<8.2	<0.16	—	EPA 8260	Monthly
TRANS-1,3-DICHLOROPROPENE	ug/L	<74	<7.4	<0.15	—	EPA 8260	Monthly
TRICHLOROETHYLENE (TCE)	ug/L	<61	<6.1	<0.12	—	EPA 8260	Monthly
TRICHLOROFLUOROMETHANE	ug/L	<70	<7	<0.14	—	EPA 8260	Monthly
VINYL CHLORIDE	ug/L	<52	<5.2	<0.1	—	EPA 8260	Monthly
Total VOCs	ug/L	20,660	672.9	0.0	⁽²⁾ 1000		

Collected March 15, 2004

< - Less Than Limit of Detection

> Between Limit of Detection and Limit of Quantification

Concentrations exceeding the POTW have been shaded

⁽¹⁾ POTW standards for effluent discharge

⁽²⁾ 1000 = POTW standard for total BTEX for effluent discharge

⁽³⁾ BTEX and PVOCS collected monthly, remaining analytes collected semi-annually

Table 3
Remediation System Water Quality Monitoring Results
Northern States Power, Ashland, Wisconsin

March 2004

Analyte	Units	Influent	Precarbon	Effluent	⁽¹⁾ POTW	Method	Frequency
PAHs, DRO, GRO							
1-METHYLNAPHTHALENE	ug/L	(4)	(4)	<0.012	—	SW8310	Quarterly
2-METHYLNAPHTHALENE	ug/L	(4)	(4)	<0.018	—	SW8310	Quarterly
ACENAPHTHENE	ug/L	(4)	(4)	<0.016	—	SW8310	Quarterly
ACENAPHTHYLENE	ug/L	(4)	(4)	<0.05	—	SW8310	Quarterly
ANTHRACENE	ug/L	(4)	(4)	<0.012	—	SW8310	Quarterly
BENZO(A)ANTHRACENE	ug/L	(4)	(4)	<0.016	—	SW8310	Quarterly
BENZO(A)PYRENE	ug/L	(4)	(4)	<0.011	—	SW8310	Quarterly
BENZO(B)FLUORANTHENE	ug/L	(4)	(4)	<0.018	—	SW8310	Quarterly
BENZO(G,H,I)PERYLENE	ug/L	(4)	(4)	<0.011	—	SW8310	Quarterly
BENZO(K)FLUORANTHENE	ug/L	(4)	(4)	<0.012	—	SW8310	Quarterly
CHRYSENE	ug/L	(4)	(4)	<0.021	—	SW8310	Quarterly
DIBENZ(A,H)ANTHRACENE	ug/L	(4)	(4)	<0.016	—	SW8310	Quarterly
FLUORANTHENE	ug/L	(4)	(4)	<0.01	—	SW8310	Quarterly
FLUORENE	ug/L	(4)	(4)	<0.015	—	SW8310	Quarterly
INDENO(1,2,3-C,D)PYRENE	ug/L	(4)	(4)	<0.037	—	SW8310	Quarterly
NAPHTHALENE	ug/L	(4)	(4)	<0.014	—	SW8310	Quarterly
PHENANTHRENE	ug/L	(4)	(4)	<0.017	—	SW8310	Quarterly
PYRENE	ug/L	(4)	(4)	<0.011	—	SW8310	Quarterly
DIESEL RANGE ORGANICS (DRO)	mg/L	(4)	(4)	<0.023	50	DRO	Semi-Annual
GASOLINE RANGE ORGANICS (GRO)	mg/L	(4)	(4)	<0.0038	50	GRO	Semi-Annual
Inorganics							
PHOSPHORUS, TOTAL (MG/L P)	mg/L	(4)	(4)	0.097	5	E365.2	Semi-Annual
CADMIUM, TOTAL (UG/L CD)	ug/L	(4)	(4)	<0.17	110	SW6010	Semi-Annual
CHROMIUM, TOTAL (UG/L CR)	ug/L	(4)	(4)	<0.51	2,500	SW6010	Semi-Annual
COPPER, TOTAL (UG/L CU)	ug/L	(4)	(4)	<1.3	2,000	SW6010	Semi-Annual
LEAD, TOTAL (UG/L PB)	ug/L	(4)	(4)	1.6	100	SW6010	Semi-Annual
MERCURY, TOTAL (UG/L HG)	ug/L	(4)	(4)	<0.025	0.5	SW7470A	Semi-Annual
PH, LAB (STANDARD UNITS)	pH units	(4)	(4)	7.71	5.5<pH>9.5	SW9040	Semi-Annual
OIL & GREASE	mg/L	(4)	(4)	1.9	50	A5520	Quarterly

Collected March 15, 2004

< - Less Than Limit of Detection

<> Between Limit of Detection and Limit of Quantification

Concentrations exceeding the POTW have been shaded

⁽¹⁾ POTW standards for effluent discharge

⁽²⁾ 1000 = POTW standard for total BTEX for effluent discharge

⁽⁴⁾ Parameter not analyzed

Table 4
Remediation System Air Monitoring Results
Northern States Power, Ashland, Wisconsin

March 2004

Analyte	Units	Air Stripper	1st Stage Carbon	Effluent	Method	Frequency	VOCs	
							3.0	5.0
Volume Collected	Liters	3.0	3.0	5.0				
Benzene	mg	<0.02	0.027	0.034	NIOSH 1501	Monthly		
Benzene	mg/m ³	<6.67	9.0	6.80				
Ethylbenzene	mg	<0.02	<0.02	<0.02	NIOSH 1501	Monthly		
Ethylbenzene	mg/m ³	<6.67	<6.67	<4.0				
Hydrocarbons (total)	mg	0.038	0.06	0.066	NIOSH 1550	Monthly		
Hydrocarbons (total)	mg/m ³	12.67	20.0	13.2				
Toluene	mg	<0.02	<0.02	<0.02	NIOSH 1501	Monthly		
Toluene	mg/m ³	<6.67	<6.67	<4.0				
Xylene, Total	mg	<0.03	<0.03	<0.03	NIOSH 1501	Monthly		
Xylene, Total	mg/m ³	<10.0	<10.0	<6.0				

Collected March 19, 2004

< - Less Than Limit of Detection

<> Between Limit of Detection and Limit of Quantification

Table 5
Summary of Coal Tar and Groundwater Volume Removed
Northern States Power, Ashland, Wisconsin

Date	Cumulative Volume of Coal Tar Removed (gals)	Cumulative Volume of Coal Tar Removed (lbs)	Cumulative Volume of Groundwater Removed from Wells EW-1, EW-2, EW-3 (gals)	Cumulative Volume of Groundwater Removed from well EW-4 (gals)	Cumulative Volume of Total Groundwater Removed (gals)
20-Feb-01	554.2	4,853	22,826	0	22,826
30-Mar-01	850.0	7,443	44,613	0	44,613
26-Apr-01	915.2	8,014	56,978	0	56,978
17-May-01	1,078.2	9,442	58,967	0	58,967
11-Jun-01	1,291.2	11,307	61,094	0	61,094
31-Jul-01	1,535.2	13,444	65,758	0	65,758
15-Aug-01	1,578.0	13,819	65,758	0	65,758
12-Sep-01	1,578.0	14,193	81,524	0	81,524
28-Sep-01	1,789.9	15,674	104,500	0	104,500
12-Nov-01 ¹	2,486.4	21,773	104,900	0	104,900
13-Nov-01	2,551.6	22,344	106,200	0	106,200
14-Nov-01	2,559.7	22,415	107,600	0	107,600
19-Nov-01	2,600.5	22,772	114,200	0	114,200
28-Nov-01	2,682.0	23,486	125,200	0	125,200
03-Dec-01	2,779.8	24,342	131,500	0	131,500
12-Dec-01	2,877.6	25,199	142,300	0	142,300
19-Dec-01	2,975.4	26,055	155,328	0	155,328
03-Jan-02	3,105.8	27,197	172,000	0	172,000
05-Feb-02	3,105.7	27,197	173,116	0	173,116
11-Feb-02	3,122.0	27,340	178,300	0	178,300
12-Feb-02	3,122.1	27,340	180,100	0	180,100
19-Feb-02	3,122.1	27,340	182,900	0	182,900
06-Mar-02	3,138.4	27,483	183,000	0	183,000
12-Mar-02	3,187.3	27,911	194,400	0	194,400
18-Mar-02	3,219.9	28,196	199,400	0	199,400
27-Mar-02	3,317.7	29,053	210,500	0	210,500
03-Apr-02	3,350.3	29,338	216,600	0	216,600
09-Apr-02	3,399.2	29,767	224,000	0	224,000
23-Apr-02	3,473.6	30,419	238,100	0	238,100
30-Apr-02	3,514.3	30,775	246,700	0	246,700
08-May-02	3,538.8	30,989	256,900	0	256,900
15-May-02	3,587.7	31,418	264,500	0	264,500
20-May-02	3,612.1	31,631	266,900	0	266,900
24-May-02	3,636.5	31,845	268,365	10,935	279,300
28-May-02	3,652.8	31,988	272,215	13,185	285,400
17-Jun-02	3,669.1	32,131	287,693	28,507	316,200
25-Jun-02	3,726.2	32,631	295,908	35,492	331,400
02-Jul-02	3,766.9	32,987	299,147	42,153	341,300
09-Jul-02	3,783.2	33,130	306,783	42,717	349,500
17-Jul-02	3,799.5	33,272	314,710	49,990	364,700
22-Jul-02	3,824.0	33,487	319,384	54,516	373,900
29-Jul-02	3,864.7	33,843	326,542	57,158	383,700
08-Aug-02	3,905.5	34,201	334,406	68,394	402,800
15-Aug-02	3,921.8	34,343	340,391	68,609	409,000
09-Sep-02	3,942.1	34,521	343,084	79,816	422,900
19-Sep-02	4,003.3	35,057	350,659	91,441	442,100
26-Sep-02	4,003.3	35,057	356,565	91,535	448,100
04-Oct-02	4,003.3	35,057	363,135	93,265	456,400
11-Oct-02	4,003.3	35,057	374,863	94,737	469,600
18-Oct-02	4,027.8	35,272	374,863	94,737	485,600
25-Oct-02	4,158.2	36,414	379,459	116,901	496,360
31-Oct-02	4,166.3	36,484	381,556	121,045	502,600
08-Nov-02	4,166.3	36,484	390,756	121,045	511,800
21-Nov-02	4,753.3	41,625	387,629	124,272	511,900
26-Nov-02	4,773.6	41,803	391,434	127,566	519,000
04-Dec-02	4,789.9	41,945	398,205	129,795	528,000
10-Dec-02	4,802.2	42,053	403,230	130,971	534,200
18-Dec-02	4,826.6	42,267	410,356	132,444	542,800
23-Dec-02	4,842.9	42,409	412,967	133,333	546,300
30-Dec-02	4,855.1	42,516	415,842	134,458	550,300
10-Jan-03	4,883.7	42,767	425,575	136,125	561,700
15-Jan-03	4,900.0	42,910	429,541	136,859	566,400
20-Jan-03	4,920.3	43,087	434,133	137,567	571,700
30-Jan-03	4,952.9	43,373	442,556	138,844	581,400
13-Feb-03	4,989.6	43,694	454,019	140,881	594,900
19-Feb-03	5,007.8	43,854	456,851	141,149	598,000

Table 5
Summary of Coal Tar and Groundwater Volume Removed
Northern States Power, Ashland, Wisconsin

Date	Cumulative Volume of Coal Tar Removed (gals)	Cumulative Volume of Coal Tar Removed (lbs)	Cumulative Volume of Groundwater Removed from Wells EW-1, EW-2, EW-3 (gals)	Cumulative Volume of Groundwater Removed from well EW-4 (gals)	Cumulative Volume of Total Groundwater Removed (gals)
26-Feb-03	5,036.3	44,103	463,081	142,019	605,100
04-Mar-03	5,036.3	44,103.1	468,458	142,742	611,200
27-Mar-03	5,036.3	44,103.1	471,979	143,488	615,467
02-Apr-03	5,097.5	44,639	478,430	144,870	623,300
09-Apr-03	5,105.6	44,710	483,745	145,855	629,600
16-Apr-03	5,121.9	44,853	487,333	148,267	635,600
23-Apr-03 ²	4,910.0	42,997	492,504	152,796	645,300
29-Apr-03	4,926.3	43,140	495,729	155,771	651,500
07-May-03	4,926.3	43,140	499,877	158,223	658,100
15-May-03	4,926.3	43,140	499,877	158,223	658,100
21-May-03	4,942.6	43,283	515,230	172,470	687,700
28-May-03	4,958.9	43,425	522,943	175,357	698,300
03-Jun-03	4,967.1	43,497	524,602	176,598	701,200
10-Jun-03	4,975.2	43,568	529,728	178,472	708,200
17-Jun-03	4,983.4	43,640	534,411	179,789	714,200
26-Jun-03	4,983.4	43,640	540,050	180,950	721,000
02-Jul-03	4,983.4	43,640	543,291	181,909	725,200
09-Jul-03	4,983.4	43,640	549,991	181,909	731,900
16-Jul-03	4,991.5	43,711	553,174	185,526	738,700
22-Jul-03	4,999.7	43,783	556,643	186,957	743,600
30-Jul-03	5,007.8	43,854	560,726	188,074	748,800
06-Aug-03	5,040.4	44,139	562,275	188,825	751,100
20-Aug-03	5,081.2	44,496	567,361	191,139	758,500
28-Aug-03	5,138.2	44,995	570,561	191,139	761,700
04-Sep-03	5,316.7	46,559	572,759	191,841	764,600
11-Sep-03	5,382.7	47,137	575,659	191,841	767,500
19-Sep-03	5,423.5	47,494	579,259	191,841	771,100
25-Sep-03	5,366.4	46,994	578,399	197,101	775,500
03-Oct-03	5,382.7	47,137	584,399	197,101	781,500
09-Oct-03	5,399.0	47,279	583,771	198,229	782,000
24-Oct-03	5,452.0	47,743	589,679	200,821	790,500
29-Oct-03	5,472.4	47,922	592,579	200,821	793,400
06-Nov-03	5,521.3	48,350	596,979	200,821	797,800
13-Nov-03	5,537.6	48,493	598,764	200,836	799,600
11/19/2003	5,562.1	48,708	598,895	201,005	799,900
25-Nov-03	5,582.4	48,885	601,544	202,056	803,600
03-Dec-03	5,611.0	49,136	604,762	203,438	808,200
11-Dec-03	5,635.4	49,349	608,144	204,556	812,700
19-Dec-03	5,659.9	49,564	612,612	205,488	818,100
26-Dec-03	5,676.4	49,708	615,254	206,146	821,400
29-Dec-03	5,684.3	49,778	615,310	206,190	821,500
09-Jan-04	5,696.5	49,884	618,110	206,190	824,300
20-Jan-04	5,700.6	49,920	619,147	207,153	826,300
29-Jan-04	5,704.7	49,956	626,409	208,091	834,500
03-Feb-04	5,716.9	50,063	630,515	208,485	839,000
11-Feb-04	5,716.9	50,063	633,094	208,706	841,800
17-Feb-04	5,725.1	50,135	637,911	209,089	847,000
26-Feb-04	5,733.2	50,206	645,083	209,617	854,700
02-Mar-04	5,745.4	50,313	649,270	209,930	859,200
12-Mar-04	5,765.8	50,491	657,501	210,999	868,500
19-Mar-04	5,798.8	50,780	664,798	212,102	876,900
25-Mar-04	5,810.6	50,884	669,603	214,997	884,600
02-Apr-04	5,814.7	50,920	669,738	215,163	884,900
05-Apr-04	5,814.7	50,920	672,233	217,667	889,900

¹ Increase in coal tar removal w/ no change in groundwater removal volume due to coal tar collection tank and wash tank being pumped out and shipped to WRR in Eau Claire, WI. Total volume of 1324 gallons, w/ a current estimate of 85% coal tar in that volume.

² Correction of revised quantity of coal tar removed on 4/23/2003 of -211.9 gallons due to settling of emulsified coal tar measured on this date.

APPENDIX

LABORATORY REPORTS

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Grandon, WI 54520
Ph: (715)478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

Printed: 04/13/04

NLS Project: 79923

NLS Customer: 91206

Fax: 414 831 4101 Phone: 414 831 4100

Project: Ashland/NSP Lakefront

NS-GW-Inf-0304 NLS ID: 333222

Ref. Line 1 COC 67985 NS-GW-Inf-0304 Matrix: GW
Collected: 03/15/04 08:30 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

NS-GW-Precarbon-0304 NLS ID: 333223

Ref. Line 2 COC 67985 NS-GW-Precarbon-0304 Matrix: GW
Collected: 03/15/04 08:45 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

NS-GW-Eff-0304 NLS ID: 333224

Ref. Line 3 COC 67985 NS-GW-Eff-0304 Matrix: GW
Collected: 03/15/04 09:00 Received: 03/16/04

Parameter Cadmium, tot. as Cd by ICP Trace

Chromium, tot. as Cr by ICP-Trace

Copper, tot. as Cu by ICP-Trace

Lead, tot. as Pb by ICP-Trace

Mercury, tot. as Hg

Oil and Grease, water (hexane)

pH, Lab

Phosphorus, tot. as P

Metal digestion - total water ICP

VOCs (water) by EPA 8260

PAHs (water) by EPA 8310

Organics Extraction (Water) for PAHs

GRO (water)

DRO (water)

Organics Extraction (DRO)

Trip Blank NLS ID: 333225

Ref. Line 4 COC 67985 Trip Blank Matrix: TB
Collected: 03/15/04 00:00 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

Reviewed by:

R. T. Krueger

President

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

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%DWB = (mg/kg DWB) / 10000

NA = Not Applicable

MCL = Maximum Contaminant Levels for Drinking Water Samples

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Printed: 04/13/04

NLS Project: 79923

NLS Customer: 91206

Fax: 414 831 4101 Phone: 414 831 4100

Project: Ashland/NSP Lakefront

NS-GW-Inf-0304 NLS ID: 333222

Ref. Line 1 COC 67985 NS-GW-Inf-0304 Matrix: GW
Collected: 03/15/04 08:30 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

NS-GW-Precarbon-0304 NLS ID: 333223

Ref. Line 2 COC 67985 NS-GW-Precarbon-0304 Matrix: GW
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Lead, tot. as Pb by ICP-Trace

Mercury, tot. as Hg

Oil and Grease, water (hexane)

pH, Lab

Phosphorus, tot. as P

Metal digestion - total water ICP

VOCs (water) by EPA 8260

PAHs (water) by EPA 8310

Organics Extraction (Water) for PAHs

GRO (water)

DRO (water)

Organics Extraction (DRO)

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Collected: 03/15/04 00:00 Received: 03/16/04

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Reviewed by:

R. T. Krueger

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EPA Laboratory ID No. WI00034

Printed: 04/13/04

NLS Project: 79923

NLS Customer: 91206

Fax: 414 831 4101 Phone: 414 831 4100

Project: Ashland/NSP Lakefront

NS-GW-Inf-0304 NLS ID: 333222

Ref. Line 1 COC 67985 NS-GW-Inf-0304 Matrix: GW
Collected: 03/15/04 08:30 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

NS-GW-Precarbon-0304 NLS ID: 333223

Ref. Line 2 COC 67985 NS-GW-Precarbon-0304 Matrix: GW
Collected: 03/15/04 08:45 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

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Lead, tot. as Pb by ICP-Trace

Mercury, tot. as Hg

Oil and Grease, water (hexane)

pH, Lab

Phosphorus, tot. as P

Metal digestion - total water ICP

VOCs (water) by EPA 8260

PAHs (water) by EPA 8310

Organics Extraction (Water) for PAHs

GRO (water)

DRO (water)

Organics Extraction (DRO)

Trip Blank NLS ID: 333225

Ref. Line 4 COC 67985 Trip Blank Matrix: TB
Collected: 03/15/04 00:00 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

Reviewed by:

R. T. Krueger

President

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WDNR Laboratory ID No. 721026460

WDATCP Laboratory Certification No. 105-330

EPA Laboratory ID No. WI00034

Printed: 04/13/04

NLS Project: 79923

NLS Customer: 91206

Fax: 414 831 4101 Phone: 414 831 4100

Project: Ashland/NSP Lakefront

NS-GW-Inf-0304 NLS ID: 333222

Ref. Line 1 COC 67985 NS-GW-Inf-0304 Matrix: GW
Collected: 03/15/04 08:30 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

NS-GW-Precarbon-0304 NLS ID: 333223

Ref. Line 2 COC 67985 NS-GW-Precarbon-0304 Matrix: GW
Collected: 03/15/04 08:45 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

NS-GW-Eff-0304 NLS ID: 333224

Ref. Line 3 COC 67985 NS-GW-Eff-0304 Matrix: GW
Collected: 03/15/04 09:00 Received: 03/16/04

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Copper, tot. as Cu by ICP-Trace

Lead, tot. as Pb by ICP-Trace

Mercury, tot. as Hg

Oil and Grease, water (hexane)

pH, Lab

Phosphorus, tot. as P

Metal digestion - total water ICP

VOCs (water) by EPA 8260

PAHs (water) by EPA 8310

Organics Extraction (Water) for PAHs

GRO (water)

DRO (water)

Organics Extraction (DRO)

Trip Blank NLS ID: 333225

Ref. Line 4 COC 67985 Trip Blank Matrix: TB
Collected: 03/15/04 00:00 Received: 03/16/04

Parameter VOCs (water) by EPA 8260

Reviewed by:

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President

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NA = Not Applicable

MCL = Maximum Contaminant Levels for Drinking Water Samples

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - (Sat 2000R)

NLS Project: 79923

Customer: URS Corporation (Milwaukee) Project Description: Ashland/NSP Lakefront

Project Title: Template: SATRW Printed: 04/13/2004 08:10

ANALYTE NAME	Sample: 333222	NS-GW-Inf-0304	Collected: 03/15/04	Analyzed: 03/22/04		
		RESULT	UNITS	DIL	LOD	LOQ
Benzene		4500	ug/L	500	57	210
Bromobenzene		ND	ug/L	500	69	230
Bromo-chloromethane		ND	ug/L	500	80	270
Bromo-dichloromethane		ND	ug/L	500	57	190
Bromoform		ND	ug/L	500	91	300
Bromo-methane		ND	ug/L	500	130	440
n-Butylbenzene		ND	ug/L	500	65	220
sec-Butylbenzene		ND	ug/L	500	67	220
tert-Butylbenzene		ND	ug/L	500	61	200
Carbon Tetrachloride		ND	ug/L	500	64	210
Chlorobenzene		ND	ug/L	500	84	280
Chloroethane		ND	ug/L	500	300	960
Chloroform		ND	ug/L	500	80	260
Chloro-methane		ND	ug/L	500	93	310
2-Chlorotoluene		ND	ug/L	500	61	200
4-Chlorotoluene		ND	ug/L	500	71	240
Dibromo-chloromethane		ND	ug/L	500	55	180
1,2-Dibromo-3-Chloropropane		ND	ug/L	500	79	280
1,2-Dibromoethane		ND	ug/L	500	72	240
Dibromomethane		ND	ug/L	500	88	280
1,2-Dichlorobenzene		ND	ug/L	500	69	250
1,3-Dichlorobenzene		ND	ug/L	500	67	220
1,4-Dichlorobenzene		ND	ug/L	500	81	270
Dichlorodifluoromethane		ND	ug/L	500	130	430
1,1-Dichloroethane		ND	ug/L	500	59	170
1,2-Dichloroethane		ND	ug/L	500	70	230
1,1-Dichloroethene		ND	ug/L	500	86	310
cis-1,2-Dichloroethene		ND	ug/L	500	110	370
trans-1,2-Dichloroethene		ND	ug/L	500	82	270
1,2-Dichloropropane		ND	ug/L	500	70	230
1,3-Dichloropropane		ND	ug/L	500	79	260
2,2-Dichloropropene		ND	ug/L	500	58	190
1,1-Dichloropropene		ND	ug/L	500	70	260
cis-1,3-Dichloropropene		ND	ug/L	500	73	240
trans-1,3-Dichloropropene		[150]	ug/L	500	74	250
Ethy-Benzene		ND	ug/L	500	54	180
Hexachlorobutadiene		ND	ug/L	500	140	470
Isopropylbenzene		ND	ug/L	500	57	190
p-Isopropyltoluene		ND	ug/L	500	68	230
Methylene chloride		ND	ug/L	500	58	190
Naphthalene		9700	ug/L	500	91	300
n-Propylbenzene		ND	ug/L	500	65	220
ortho-Xylene		510	ug/L	500	54	180
Styrene		1600	ug/L	500	60	200
1,1,1,2-Tetrachloroethane		ND	ug/L	500	66	220
1,1,2,2-Tetrachloroethane		ND	ug/L	500	88	290
Tetrachloroethene		ND	ug/L	500	86	290
Toluene		3100	ug/L	500	72	240
1,2,3-Trichlorobenzene		ND	ug/L	500	100	340

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - (Sat 2000R)

Customer: URS Corporation (Milwaukee)

NLS Project: 79923

Project Description: Ashland/NSP Lakefront

Template: SATRW Printed: 04/13/2004 08:10

Page 2 of 8

Sample: 333222 NS-GW-Inf-0304

Collected: 03/15/04 Analyzed: 03/22/04

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ
1,2,4-Trichlorobenzene	ND	ug/L	500	81	270
1,1,1-Trichloroethane	ND	ug/L	500	82	270
1,1,2-Trichloroethane	ND	ug/L	500	90	300
Trichloroethylene	ND	ug/L	500	61	200
Trichlorofluoromethane	ND	ug/L	500	70	230
1,2,3-Trichloropropane	ND	ug/L	500	77	260
1,2,4-Trimethylbenzene	270	ug/L	500	63	210
1,3,5-Trimethylbenzene	ND	ug/L	500	69	250
Vinyl chloride	ND	ug/L	500	52	160
meta,para-Xylene	830	ug/L	500	120	440
MTBE	ND	ug/L	500	76	250
Isopropyl Ether	97%	ug/L	500	68	230
Dibromofluoromethane (SURR**)					
Toluene-d8 (SURR**)					
1-Bromo-4-Fluorobenzene (SURR**)					
	101%				
	105%				

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - (Sat 2000R)

Customer: URS Corporation (Milwaukee)

NLS Project: 79923

Project Description: Ashland/NSP Lakefront

Template: SATRW

Printed: 04/13/2004 08:10

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ
Benzene	39	ug/L	50	5.7	21
Bromobenzene	ND	ug/L	50	6.9	23
Bromoform	ND	ug/L	50	8.0	27
Bromomethane	ND	ug/L	50	5.7	19
Bromotrichloroethane	ND	ug/L	50	9.1	30
Carbon Tetrachloride	ND	ug/L	50	13	44
Chlorobenzene	ND	ug/L	50	6.5	22
Chloroethane	ND	ug/L	50	6.7	22
Chloromethane	ND	ug/L	50	6.1	20
2-Chlorotoluene	ND	ug/L	50	6.4	21
4-Chlorotoluene	ND	ug/L	50	8.4	28
Dibromochloromethane	ND	ug/L	50	30	96
1,2-Dibromo-3-Chloropropane	ND	ug/L	50	8.0	26
1,2-Dibromoethane	ND	ug/L	50	9.3	31
Dibromomethane	ND	ug/L	50	6.1	20
1,2-Dichlorobenzene	ND	ug/L	50	7.1	24
1,3-Dichlorobenzene	ND	ug/L	50	5.5	18
1,4-Dichlorobenzene	ND	ug/L	50	7.9	28
Dichlorodifluoromethane	ND	ug/L	50	7.2	24
1,1-Dichloroethane	ND	ug/L	50	8.5	28
1,2-Dichloroethane	ND	ug/L	50	6.9	25
1,1-Dichloroethene	ND	ug/L	50	6.7	22
cis-1,2-Dichloroethene	ND	ug/L	50	8.1	27
trans-1,2-Dichloroethene	ND	ug/L	50	13	43
1,2-Dichloropropane	ND	ug/L	50	5.3	17
1,3-Dichloropropane	ND	ug/L	50	7.0	23
2,2-Dichloropropane	ND	ug/L	50	6.6	31
1,1-Dichloropropene	ND	ug/L	50	11	37
cis-1,3-Dichloropropene	ND	ug/L	50	8.2	27
trans-1,3-Dichloropropene	ND	ug/L	50	7.0	23
Ethybenzene	ND	ug/L	50	7.9	26
Hexachlorobutadiene	ND	ug/L	50	5.8	19
Isopropylbenzene	ND	ug/L	50	7.0	26
p-Isopropyltoluene	ND	ug/L	50	7.3	24
Methylene chloride	ND	ug/L	50	5.8	19
Naphthalene	570	ug/L	50	9.1	30
n-Propylbenzene	ND	ug/L	50	6.5	22
ortho-Xylene	[7.4]	ug/L	50	5.4	18
Styrene	22	ug/L	50	5.7	19
1,1,1,2-Tetrachloroethane	ND	ug/L	50	6.0	20
1,1,2,2-Tetrachloroethane	ND	ug/L	50	6.6	22
Tetrachloroethene	ND	ug/L	50	8.8	29
Toluene	28	ug/L	50	7.2	24
1,2,3-Trichlorobenzene	ND	ug/L	50	10	34

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - (Sat 2000R)

Customer: URS Corporation (Milwaukee)

NLS Project: 79923

Project Description: Ashland/NSP Lakefront

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ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ
1,2,4-Trichlorobenzene	ND	ug/L	50	8.1	27
1,1,1-Trichloroethane	ND	ug/L	50	8.2	27
1,1,2-Trichloroethane	ND	ug/L	50	9.0	30
Trichloroethylene	ND	ug/L	50	6.1	20
Trichlorofluoromethane	ND	ug/L	50	7.0	23
1,2,3-Trichloropropane	ND	ug/L	50	7.7	26
1,2,4-Trimethylbenzene	[6.5]	ug/L	50	6.3	21
1,3,5-Trimethylbenzene	ND	ug/L	50	6.9	25
Vinyl chloride	ND	ug/L	50	5.2	16
meta,para-Xylene	ND	ug/L	50	12	44
MTBE	ND	ug/L	50	7.6	25
Isopropyl Ether	ND	ug/L	50	6.8	23
Dibromofluoromethane (SURR**)	99%				
Toluene-d8 (SURR**)	105%				
1-Bromo-4-Fluorobenzene (SURR**)	107%				

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - (Sat 2000R)

Customer: URS Corporation (Milwaukee) NLS Project: 79923

Project Description: Ashland/NSP Lakefront

Template: SATRW Printed: 04/13/2004 08:10

Sample: 333224 NS-GW-Eff-0304

Collected: 03/15/04 Analyzed: 03/22/04

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ
Benzene	ND	ug/L	1	0.11	0.42
Bromobenzene	ND	ug/L	1	0.14	0.46
Bromoform	ND	ug/L	1	0.16	0.53
Bromomethane	ND	ug/L	1	0.11	0.38
Carbon Tetrachloride	ND	ug/L	1	0.18	0.61
Chlorobenzene	ND	ug/L	1	0.26	0.88
Chloroethane	ND	ug/L	1	0.13	0.43
Chloromethane	ND	ug/L	1	0.13	0.45
2-Chlorotoluene	ND	ug/L	1	0.12	0.40
4-Chlorotoluene	ND	ug/L	1	0.13	0.43
Dibromochloromethane	ND	ug/L	1	0.17	0.56
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.60	1.9
1,2-Dibromoethane	ND	ug/L	1	0.16	0.53
Dibromomethane	ND	ug/L	1	0.19	0.62
1,2-Dichlorobenzene	ND	ug/L	1	0.12	0.41
1,3-Dichlorobenzene	ND	ug/L	1	0.14	0.47
1,4-Dichlorobenzene	ND	ug/L	1	0.11	0.37
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.48
1,1-Dichloroethane	ND	ug/L	1	0.17	0.56
1,2-Dichloroethane	ND	ug/L	1	0.14	0.50
1,1-Dichloroethene	ND	ug/L	1	0.13	0.44
cis-1,2-Dichloroethene	ND	ug/L	1	0.16	0.54
trans-1,2-Dichloroethene	ND	ug/L	1	0.26	0.86
1,2-Dichloropropane	ND	ug/L	1	0.11	0.35
1,3-Dichloropropane	ND	ug/L	1	0.14	0.47
2,2-Dichloropropane	ND	ug/L	1	0.12	0.38
1,1-Dichloropropene	ND	ug/L	1	0.14	0.51
cis-1,3-Dichloropropene	ND	ug/L	1	0.15	0.49
trans-1,3-Dichloropropene	ND	ug/L	1	0.15	0.49
Ethylbenzene	ND	ug/L	1	0.11	0.36
Hexachlorobutadiene	ND	ug/L	1	0.28	0.94
Isopropylbenzene	ND	ug/L	1	0.11	0.38
p-Isopropyltoluene	ND	ug/L	1	0.14	0.45
Methylene chloride	ND	ug/L	1	0.12	0.39
Naphthalene	ND	ug/L	1	0.18	0.60
n-Propylbenzene	ND	ug/L	1	0.13	0.44
ortho-Xylene	ND	ug/L	1	0.11	0.36
Styrene	ND	ug/L	1	0.12	0.40
1,1,2-Tetrachloroethane	ND	ug/L	1	0.13	0.44
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59
Tetrachloroethene	ND	ug/L	1	0.17	0.57
Toluene	ND	ug/L	1	0.14	0.48
1,2,3-Trichlorobenzene	ND	ug/L	1	0.20	0.68

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - (Sat 2000R)

Customer: URS Corporation (Milwaukee)

NLS Project: 79923

Project Description: Ashland/NSP Lakefront

Template: SATRW

Printed: 04/13/2004 08:10

Sample: 333224 NS-GW-Eff-0304

Collected: 03/15/04 Analyzed: 03/22/04

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ
1,2,4-Trichlorobenzene	ND	ug/L	1	0.16	0.54
1,1,1-Trichloroethane	ND	ug/L	1	0.16	0.55
1,1,2-Trichloroethane	ND	ug/L	1	0.18	0.60
Trichloroethene	ND	ug/L	1	0.12	0.41
Trichlorofluoromethane	ND	ug/L	1	0.14	0.47
1,2,3-Trichloropropane	ND	ug/L	1	0.15	0.51
1,2,4-Trimethylbenzene	ND	ug/L	1	0.13	0.42
1,3,5-Trimethylbenzene	ND	ug/L	1	0.14	0.51
Vinyl chloride	ND	ug/L	1	0.10	0.33
meta,para-Xylene	ND	ug/L	1	0.24	0.89
MTBE	ND	ug/L	1	0.15	0.50
Isopropyl Ether	ND	ug/L	1	0.14	0.45
Dibromofluoromethane (SURR**)	97%				
Toluene-d8 (SURR**)	104%				
1-Bromo-4-Fluorobenzene (SURR**)	102%				

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - (Sat 2000R)
Customer: URS Corporation (Milwaukee) NLS Project: 79923
Project Description: Ashland/NSP Lakefront
Project Title:

Template: SATRW Printed: 04/13/2004 08:10

ANALYTE NAME	Sample: 333225	Trip Blank	Collected: 03/15/04	Analyzed: 03/22/04
			RESULT	UNITS
			DIL	LOD
Benzene	ND	ug/L	1	0.11
Bromobenzene	ND	ug/L	1	0.14
Bromoform	ND	ug/L	1	0.16
Bromomethane	ND	ug/L	1	0.11
Bromoform	ND	ug/L	1	0.18
Bromomethane	ND	ug/L	1	0.26
n-Butylbenzene	ND	ug/L	1	0.13
sec-Butylbenzene	ND	ug/L	1	0.12
tert-Butylbenzene	ND	ug/L	1	0.13
Carbon Tetrachloride	ND	ug/L	1	0.17
Chlorobenzene	ND	ug/L	1	0.60
Chloroethane	ND	ug/L	1	0.16
Chloroform	ND	ug/L	1	0.19
Chloromethane	ND	ug/L	1	0.12
2-Chlorotoluene	ND	ug/L	1	0.14
4-Chlorotoluene	ND	ug/L	1	0.14
Dibromochloromethane	ND	ug/L	1	0.11
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.16
1,2-Dibromoethane	ND	ug/L	1	0.14
Dibromomethane	ND	ug/L	1	0.17
1,2-Dichlorobenzene	ND	ug/L	1	0.14
1,3-Dichlorobenzene	ND	ug/L	1	0.13
1,4-Dichlorobenzene	ND	ug/L	1	0.16
Dichlorodifluoromethane	ND	ug/L	1	0.26
1,1-Dichloroethane	ND	ug/L	1	0.11
1,2-Dichloroethane	ND	ug/L	1	0.14
1,1-Dichloroethene	ND	ug/L	1	0.17
cis-1,2-Dichloroethene	ND	ug/L	1	0.22
trans-1,2-Dichloroethene	ND	ug/L	1	0.16
1,2-Dichloropropane	ND	ug/L	1	0.14
1,3-Dichloropropane	ND	ug/L	1	0.16
2,2-Dichloropropene	ND	ug/L	1	0.12
1,1-Dichloropropene	ND	ug/L	1	0.14
cis-1,3-Dichloropropene	ND	ug/L	1	0.15
trans-1,3-Dichloropropene	ND	ug/L	1	0.15
Ethybenzene	ND	ug/L	1	0.11
Hexachlorobutadiene	ND	ug/L	1	0.28
Isopropylbenzene	ND	ug/L	1	0.11
p-Isopropyltoluene	ND	ug/L	1	0.14
Methylene chloride	ND	ug/L	1	0.12
Naphthalene	ND	ug/L	1	0.18
n-Propylbenzene	ND	ug/L	1	0.13
ortho-Xylene	ND	ug/L	1	0.11
Styrene	ND	ug/L	1	0.12
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.13
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.18
Tetrachloroethene	ND	ug/L	1	0.17
Toluene	ND	ug/L	1	0.14
1,2,3-Trichlorobenzene	ND	ug/L	1	0.20

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - (Sat 2000R)
Customer: URS Corporation (Milwaukee) NLS Project: 79923
Project Description: Ashland/NSP Lakefront
Project Title:
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ANALYTE NAME	RESULT	UNITS	DIL.	LOD	LOQ
1,2,4-Trichlorobenzene	ND	ug/L	1	0.16	0.54
1,1,1-Trichloroethane	ND	ug/L	1	0.16	0.55
1,1,2-Trichloroethane	ND	ug/L	1	0.18	0.60
Trichloroethene	ND	ug/L	1	0.12	0.41
Trichlorofluoromethane	ND	ug/L	1	0.14	0.47
1,2,3-Trichloropropane	ND	ug/L	1	0.15	0.51
1,2,4-Trimethylbenzene	ND	ug/L	1	0.13	0.42
1,3,5-Trimethylbenzene	ND	ug/L	1	0.14	0.51
Vinyl chloride	ND	ug/L	1	0.10	0.33
meta,p-XYlene	ND	ug/L	1	0.24	0.89
MTBE	ND	ug/L	1	0.15	0.50
Isopropyl Ether	ND	ug/L	1	0.14	0.45
Dibromofluoromethane (SURR**)	93%				
Toluene-d8 (SURR**)	101%				
1-Bromo-4-Fluorobenzene (SURR**)	102%				

** Surrogates are used to evaluate a method's Quality Control.

Customer: URS Corporation (Milwaukee) NLS Project: 79923
Project Description: Ashland/NSP Lakefront
Project Title: Tempplate: 04PAHW Printed: 04/13/2004 08:10

ANALYTICAL RESULTS: Polynuclear Aromatic Hydrocarbons by EPA 8310 (w)

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ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ
Aceanaphthene	ND	ug/L	1	0.016	0.054
Aceanaphthylene	ND	ug/L	1	0.050	0.17
Anthracene	ND	ug/L	1	0.012	0.039
Benz (a) anthracene	ND	ug/L	1	0.016	0.053
Benz (a) pyrene	ND	ug/L	1	0.011	0.035
Benz (b) fluoranthene	ND	ug/L	1	0.018	0.061
Benz (g,h,i) perylene	ND	ug/L	1	0.011	0.038
Benz (k) fluoranthene	ND	ug/L	1	0.012	0.041
Chrysene	ND	ug/L	1	0.021	0.069
Dibenz (a,h) anthracene	ND	ug/L	1	0.016	0.054
Fluoranthene	ND	ug/L	1	0.010	0.035
Fluorene	ND	ug/L	1	0.015	0.051
Indeno (1,2,3-cd) pyrene	ND	ug/L	1	0.037	0.12
Methyl-1-Naphthalene	ND	ug/L	1	0.012	0.041
Methyl-2-Naphthalene	ND	ug/L	1	0.018	0.061
Naphthalene	ND	ug/L	1	0.014	0.047
Phenanthrene	ND	ug/L	1	0.017	0.056
Pyrene	ND	ug/L	1	0.011	0.035
P-Terphenyl (SURR**)	96%				

** Surrogates are used to evaluate a method's Quality Control.